times GDP per capita (43,000 EUR) in the Czech Republic. **RESULTS:** Over a 20 year time-horizon, add-on lacosamide generated 11.47 QALYs and costs 33,439 EUR (per patient), whereas standard AEDs alone provided 11.09 QALYs and costs 22,916 EUR (per patient), respectively. The base-case ICER was calculated as 27,692 EUR/QALY. Based on the PSA and its cost-effectiveness acceptability curve (CEAC) we calculated that add-on lacosamide has a probability of cost-effectiveness at 43,000 EUR per QALY gained of 80.2% compared to standard AEDs alone. **CONCLUSIONS:** Based on data from clinical practice lacosamide as add-on treatment in patients with partial-onset seizures is cost-effective under the WTP threshold implicitly applied in the Czech Republic.

PND33

COST EFFECTIVENESS OF PHARMACOGENETIC SCREENING PRIOR TO INITIATION OF CARBAMAZEPINE TREATMENT FOR EPILEPSY

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OBJECTIVES: Carbamazepine (CBZ) is a widely-used, first-line treatment in epilepsy. However, CBZ is associated with hypersensitivity adverse drug reactions (ADRs) ranging from mild rash such as maculopapular exanthema, to hypersensitivity syndrome, Steven-Johnson syndrome and toxic epidermal necrolysis (TEN). TEN is associated with a mortality rate of up to 30%. The presence of the *HLA-A*3101* allele is associated with an increased risk of CBZ-induced hypersensitivity reactions [OR 9.1, 95% CI, 4.0 to 20.7]. *HLA-A*3101* is present in 2% - 5% of populations of Northern European descent. We aim to investigate the cost effectiveness of pharmacogenetic testing for *HLA-A*3101*prior to initiation of CBZ treatment in patient with epilepsy. Patients testing positive for the allele are prescribed an alternative antiepileptic drug, lamotrigine. **METHODS:** A decision analytic model was developed to represent the first three months post initiation of anti-epileptic drug, to cover the period when the majority of severe ADRs manifest. A Markov model (cycle length 1 year) was used to simulate costs (from the perspective of the NHS in the UK) and utilities incurred in subsequent years. This enables modelling of costs and disutilities from long term sequelae of severe ADRs as well as the effectiveness of treatment in terms of remission of seizures. Transition probabilities, costs and utilities were sourced from patient level data from the SANAD trial [Lancet 369(9566):1000-15] and relevant literature. **RESULTS:** Compared with no pharmacogenetic testing, and prescribing CBZ for all patients, the test results in an incremental cost effectiveness ratio of £26,684 per QALY gained. The probability that testing is cost-effective at a threshold of £30,000 per QALY is 0.55, and the cost of preventing a single ADR is £35962. **CONCLUSIONS:** Pharmacogenetic testing for *HLA-A*3101* prior to treatment with CBZ might be cost-effective for populations of North European descent.

PND34

COST-MINIMIZATION ANALYSIS OF TREATMENT OF SPASTICITY WITH BOTULINUM TOXIN TYPE A

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OBJECTIVES: Botulinum toxin type A (BoNT-A) is considered one of the treatments of dynamic equinus foot deformity due to spasticity in paediatric cerebral palsy (CP) patients, two years of age or older by decreasing hyperactivity and increasing muscle tone in patients. The aim was to compare the cost of Botox® (Allergan) and Dysport® (Ipsen), considering the administered dose per weight (U/kg) in child patients with equinus foot CP related. **METHODS:** We performed an observational, longitudinal and retrospective study with data from clinical records from December 1995 to October 2012. Records included patients younger than 18 years old with spasticity treated with BoNT-A at the Pediatric Neurology Service of the Hospital of La Paz (Madrid), with recorded birth and visit dates, weight and dose by muscle. Cost analysis only evaluated four muscle groups (pronator teres, adductor, semitendinosus and triceps surae) including only direct costs (drug and visit costs). We used bootstrap as sensitivity analysis to assess the robustness of results. Costs were in euros 2013. **RESULTS:** A total of 895 patients treated with BoNT-A for spasticity (543 treated with Botox®, 292 with Dysport® and 60 with both) were included. Baseline characteristics and follow-up were similar in both groups. Patients had an average dose infiltrated per visit of 5.44 U/kg (SD 2.17) for Botox® and 14.73 U/kg (SD 5.26) for Dysport®, and average yearly visits of 3.71 for Botox® and 3.46 for Dysport®. The annual total cost per patient was 850 € for Botox® and 636 € for Dysport®. Of these total costs, annual visit costs of 362 € for Botox® and 347 € for Dysport®, and annual drug costs were 488 € for Botox® and 289 € for Dysport®. **CONCLUSIONS:** Based on the real-world management of pediatric spasticity patients with BoNT-A observed in our study, Dysport® could reduce annual total costs per patient.

PND35

COST-UTILITY ANALYSIS OF DISEASE-MODIFYING DRUGS IN RELAPSING-REMITTING MULTIPLE SCLEROSIS IN IRAN

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OBJECTIVES: Disease-modifying drugs (DMDs) are a significant expenditure for treating multiple sclerosis. However, assessment of the cost-utility of DMDs compared with symptom management in the presence of long-term data has been limited. To assess the lifetime cost-utility from the Iranian health care perspectives of 4 disease-modifying drugs relative to symptom management alone in patients with relapsing-remitting multiple sclerosis using evidence from long-term published studies. **METHODS:** A Markov model was developed with patients transitioning through health states based on Kurtzke expanded disability status scale (EDSS). Patient costs included drug costs, other medical and lost worker productivity costs. Patient quality of life was considered in the form of utilities. Costs were valued in 2011 USD, and costs were discounted at 7.2%per annum. Various parameters and assumptions were tested in sensitivity analyses. **RESULTS:** Total costs per patient over the time horizon of a patient's lifetime were estimated at 20285, 144194, 299279, 251255 and 69796 USD for symptom management, Avonex, Betaferon, Rebif and CinnoVex, respectively. As a result, the incremental cost per QALY for patients receiving Avonex, Betaferon, Rebif and CinnoVex was 607397, 1374355, 1166515 and 1010429 USD, respectively, when compared with symptom management. The results were sensitive to changes in time horizon, disease progression and drug costs. **CONCLUSIONS:** DMDs in RRMS patients is associated with increased benefits compared with symptom management, albeit at higher costs. Because patients receiving Avonex incurred slightly higher QALYs than patients receiving other DMDs, treatment with Avonex dominate other DMDs in Iran.

PND36

COST-UTILITY ANALYSES OF NATALIZUMAB VERSUS INTERFERON BETA-1A 44 MCG FOR RAPIDLY EVOLVING SEVERE RELAPSING-REMITTING MULTIPLE SCLEROSIS (RESRRMS) PATIENTS IN BRAZIL

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OBJECTIVES: Multiple sclerosis (MS) is a neurologic disease that can dramatically affect patients' quality of life. The aim of this study is to conduct a cost-utility analysis of natalizumab (Tysabri®) versus interferon beta-1a 44 mcg (Rebif®) – a commonly prescribed 1st line disease modifying therapy – in rapidly evolving severe relapsing-remitting MS patients from the Brazilian Public Healthcare System (SUS) perspective. **METHODS:** A Markov model with 20-year time horizon with health states based on Expanded Disability Status Scale (EDSS) and disease relapses was developed. Since there are no published data evaluating long-term course specifically in RESRRMS, it was assumed transition probabilities on EDSS states were based on natural history studies in unselected RRMS patients, and relapse probabilities based on a *post-hoc* analysis of the placebo patients on pivotal natalizumab AFFIRM trial. In each monthly cycle, patients can discontinue treatment, remain stable, progress to higher EDSS state, experience progressive multifocal leukoencephalopathy (PML) or die. For natalizumab, we assumed efficacy data on disability progression and relapse from AFFIRM trial and for interferon beta-1a 44 mcg we assumed efficacy data on disability progression and relapse from pivotal trial PRISMS. Patients with EDSS score ≥ 7.5 receive best supportive care. Resource use and costs were validated by an expert panel and valued using Brazilian public official lists (DATASUS and BPS). Costs and outcomes were discounted (5%). Probabilistic sensitivity analyses covered variability in efficacy and costs. **RESULTS:** The use of natalizumab was associated with slower EDSS progression and reduced relapse burden. The quality-adjusted life years obtained with natalizumab and interferon beta-1a 44 mcg were 9.27 and 8.75, and costs were USD119,977 and USD132,446, respectively. In the base-case, natalizumab was dominant versus interferon beta-1a 44 mcg. **CONCLUSIONS:** For a patient with HARRMS, the model shows that natalizumab was dominant when compared to interferon beta-1a 44 mcg in the Brazilian Public Healthcare System.

PND37

COSTS ASSOCIATED WITH THE IMPACT OF PROGRESSIVE MULTIPLE SCLEROSIS: INSIGHTS FROM A THREE YEAR CLINICAL TRIAL (THE CUPID TRIAL)

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OBJECTIVES: To estimate the costs associated with health and social care resource use in a UK cohort of people with progressive multiple sclerosis (MS). **METHODS:** Health and social care resource use data were collected prospectively over 33 months from a cohort of 458 patients with progressive MS enrolled in a UK clinical trial (the CUPID Trial). Resource use data are used in combination with unit costs (2011 costs) from published UK national sources, and estimates of costs/prices where required. Costs for informal (unpaid) care are estimated using equivalent hourly home care rates for UK NHS and social care services. Data are presented over the 33-month period of follow, and also to allow comparison with other studies, against an estimated 6-monthly cost. Regression analyses were used to explore the impact on cost estimates from explanatory variables. **RESULTS:** The main component of resource us and costs was informal care provided by friends and family, accounting for over 84% of the estimated costs over time. Excluding informal care, the most important cost items, within the remaining sub-total of costs, were social care (52%), health care services (23%), medications (10%), adaptations (8%), and hospitalisations (6%). From a Payer perspective, the estimated mean six-monthly costs of health and social care were £927, but from a broader perspective the estimated six-monthly cost was £10,737, when private and patient costs were included. Regression analyses identified disease severity, as characterised by the EDSS, as the main explanatory driver of cost estimates. **CONCLUSIONS:** This study presents new information to inform on the impact of progressive multiple sclerosis to add to the currently sparse evidence base. Data suggest that costs are considerable and fall mainly on patients and carers. The findings also confirm the central role of disability status in predicting overall costs associated with the impact of progressive MS.

NEUROLOGICAL DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PND38

TREATMENT ADHERENCE AND COSTS IN MULTIPLE SCLEROSIS: A NARRATIVE REVIEW OF THE LITERATURE

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OBJECTIVES: To appraise the literature relating adherence and other patients' reported outcomes (PROs) to Multiple Sclerosis (MS) costs. **METHODS:** Electronic databases [MedLine/PubMed, Google Scholar, Congress proceedings] were searched to identify publications analyzing MS costs related to adherence, persistence, sat-